NavMed 369 RESTRICTED

NAVY DEPARTMENT

BUMED NEWS LETTER

a digest of timely information

Editor - Captain F. W. Farrar. (MC). U.S.N.

Vol. 9 Friday, May 23, 1947 No. 11

TABLE OF CONTENTS

Circular Letters:

* * * * * *

(Not Restricted)

The Fenestration Operation: The results contained in published reports indicate that the fenestration operation is an accepted otologic procedure for certain cases of deafness due to otosclerosis.

In evaluating the scope of usefulness of the operation at the present time there are 6 important questions that should be answered:

1. Which patients should be operated upon?

Otologists who have had experience with the fenestration operation agree that the external and middle ear should be free from any active or recent inflammation, that the eustachian tubes should be normally patent, and that the drum membrane should be intact. They also agree that the ideal patient for operation has a stapes fixation with normal cochlear function as evidenced by the masked bone conduction audiogram within normal limits for the speech frequencies, with an air conduction audiogram averaging 40 decibels or more loss for the speech frequencies. They disagree concerning those patients who cannot be classed as ideal because one or more of the speech frequencies by bone conduction is below the normal range. Should the operation be refused these patients, as some have advised, or should the otologist consent to operate if the patient clearly understands that he cannot expect to attain the 30 decibel practical level?

The following classification of cases for operation is suggested:

Class A. Ideal: Normal hearing by bone for speech frequencies. Prognosis: 8 in 10 chances of a permanent hearing improvement within the 30 decibel practical level.

Class B. Suitable, but not ideal: Normal hearing by bone except for one of the speech frequencies that shows a loss of 30 decibels or more. Prognosis: 50-50 chance of sufficient gain to do without a hearing aid.

Class C. Experimental: Two or more of the speech frequencies show a 30 decibel or greater loss by bone, but the Rinne's test for the 1024 fork is negative. Prognosis: A remote 1 in 10 chance of sufficient improvement to give practical hearing without an aid.

Class D. Unsuitable because of incomplete stapes fixation, or profound nerve degeneration. Prognosis: Operation contraindicated.

In all cases in which there is a substantial difference to the patient in the useful hearing in the two ears the poorer hearing ear should be selected for

operation. If the poorer hearing ear falls in class B, and the better ear in class A, the poorer ear should still be operated upon first, and if the operation is successful, making this the better ear, the second ear may then be operated upon.

The bone conduction audiogram should always be made with adequate masking of the opposite ear.

In selecting cases for operation the tuning fork tests are a valuable adjunct to the air and bone audiograms. The author uses forks of four frequencies, namely, 64, 512, 1024, and 2048.

Of 853 questionnaires sent to patients operated upon by the author, 623 replies were received and divided into 5 groups.

Group I contained 516 cases (82.8 per cent) in which the operation was successful in all respects: the hearing has remained improved; the family regards the operation warranted in view of the results; the patient does not now wear a hearing aid; and he would have the operation performed again were he to experience the same results.

Group II contained 25 cases (4 per cent) in which the operation was successful in that the family regards it warranted by the results and the patient would have it performed again for the same results, but a hearing aid is still worn on certain occasions.

Group III contained 7 cases (1 per cent) in which the family regards the operation as not warranted by the results, but the patient would have it performed again were he to experience the same results, and he does not now wear a hearing aid.

Group IV contained 8 cases (1 per cent) in which it was too soon after the operation to be able to answer all of the questions.

Group V contained 66 cases (10.6 per cent) in which the operation was a failure. The patient would not have the operation performed again were he to experience the same results.

In studying the individual patients who regard the operation as successful in all respects (Group I), it is found that 303 of the 516 reached the 30 decibel practical level as a result of the operation; 71 more were within 5 decibels of the practical level, but 142 had a loss of more than 35 decibels for the speech frequencies. How can these patients regard the operation as successful?

The answer is that many of them gained so much for the lower frequencies that they can compensate in part for their relatively poor hearing for the speech frequencies. Others were so profoundly deafened before operation that the improvement has been of great practical value even though it failed to bring them to the 30 decibel level of practical hearing. In other words, the number of decibels that patients gain is important to them as well as the final hearing level that they attain.

The second group is also of interest. These patients regard the operation as successful, but they still use a hearing aid at times. Some of these patients with a profound preoperative hearing loss were not benefited by a hearing aid but now obtain very good results with it, and therefore regard the operation as worth while. Many of these patients state that the hearing results from the operation far exceeded their expectations.

It is believed that the fenestration operation has 2 important fields of usefulness: first, in patients with stapes fixation and normal hearing by bone conduction whose chances for the restoration of practical hearing are good; and second, in patients with profound deafness and beginning nerve degeneration who, although the prognosis in their case is definitely guarded because the restoration of practical hearing cannot be expected, will usually gain enough hearing for them to regard the operation as very much worth while.

2. Which technic yields the best results?

This question cannot be answered until accurate statistics are available on the results obtained by the various technics that have been and are being used. The author believes that the future rapid advancement of the surgical treatment of otosclerosis depends more than anything else upon the complete and accurate reporting of results by all otologists who advocate a new technic.

The technic which is used by the author at Northwestern University Medical School has been described recently in the literature. Briefly, it makes use of the Lempert nov-ovalis fenestration operation with the addition of certain features to inhibit osteogenesis. These are:

(1) Exposure of the osteogenetically inert enchondral layer of the bony labyrinthine capsule as widely as possible beyond the margins of the fenestra. This is accomplished by removing the osteogenetically more active periosteal layer, leaving the fenestra on top of a dome-shaped mound.

(Not Restricted)

(2) Scrupulous removal of all bone chips and bone dust particles from the region of the fenestra by means of: (a) the use of continuous irrigation while making the fenestra, (b) careful search with the binocular loupe for bone chips on the periosteal surface of the tympano-meatal skin flap, (c) the use of adequate magnification with the binocular microscope to remove the endosteum with its adherent bone particles from the mouth of the fenestra.

(3) Avoidance of trauma to the endosteum within the margins of the fenestra, by using adequate magnification with the binocular operating microscope while removing the endosteum from the mouth of the fenestra.

(4) Thorough burnishing of the bone around the fenestra with the 14 karat hard gold burnishing burr.

(5) Avoidance of bleeding into the perilymph space by: (a) strictly local anesthesia, (b) continuous irrigation, (c) reinspection of the fistula after the flap has been in place for a short time to be sure there is no active bleeding under the flap at the completion of the operation.

During the past year there has been incorporated in the technic developed at Northwestern University the use of elastic absorbent sponge packs kept under continuous pressure against the tympano-meatal skin flap for 6 days to decrease cochlear damage from postoperative serous labyrinthitis and the use of a head-frame for 6 days to prevent the cochlea from being dependent to the fistula.

With this technic the incidence of bony closures has been reduced to less than 5 per cent of cases tested 2 years or more after operation. During the past year the incidence of postoperative serous labyrinthitis has been materially reduced with a definite gain in the hearing results. Appraisal of the final results with the sponge and head-frame technic must await the passage of at least 2 years.

3. How does the hearing after operation compare with a hearing aid?

Subjectively, most patients prefer the hearing after operation to a hearing aid. Preliminary objective tests seem to confirm the fact that patients who experience an average improvement generally understand speech better than they did with their aid before operation.

4. Can operation arrest or prevent the nerve degeneration of otosclerosis with stapes ankylosis?

In cases followed for 5, 6, and 7 years after operation, in which the fenestra remained open with a sustained hearing improvement, further nerve

degeneration in the ear operated upon has rarely been observed, even when nerve degeneration had already begun at the time of operation.

When the fistula has closed, with loss of the hearing improvement, nerve degeneration in the ear operated upon has continued to progress.

In a few cases with definitely progressive nerve degeneration in the ear not operated upon, the ear operated upon has failed to show any evidence of further nerve degeneration.

There is reason to hope, therefore, that the fenestration operation may, in some as yet unexplained way, arrest or prevent the secondary nerve degeneration of stapes ankylosis, at least in some cases. The final answer to this important question must await further observations on a large number of patients successfully operated upon over another 5 to 10 years.

5. What are the risks?

In more than 1300 consecutive fenestration operations, plus 39 revisions, carried out by the author and his associate, Doctor Juers, there were no fatalities and no serious infections.

The most frequent complication is transient facial paralysis coming on about 1 week after operation with complete recovery a few weeks later. This paralysis has occurred in 3 per cent of these operations. In 3 cases recovery was incomplete after 1 year, but in no case did a complete paralysis remain.

Femoral phlebitis occurred in 4 patients during the first 2 weeks after operation, with a pulmonary embolus in one. All recovered. To prevent this complication, active and passive leg exercises are now a routine procedure in all cases.

Postoperative pulmonary atelectasis occurred after one of the early operations in which ether was used. The patient recovered.

Schizophrenia, probably incipient before operation, became manifest after operation in one of the early cases.

The chief danger of the operation is permanent damage to the labyrinth, and particularly to the cochlea, with persistent dizziness or with permanent depression of hearing below the preoperative level.

Dizziness sufficient to be annoying as a rule clears up within a few weeks. Rarely it lasts as long as 2 years, and in only 1 case has it lasted more than

(Not Restricted)

2 years; this patient complains of persistent ataxia and unsteadiness while walking 2 and 1/2 years after operation.

Permanent depression of hearing below the preoperative level has occurred to date in 37 operations (2.9 per cent of all patients operated upon) and in 1 of the 39 revisions.

6. How permanent are the hearing improvements?

Bony closure occurs mostly during the first postoperative year, occasionally during the second postoperative year, and almost never later than 2 years after operation. A hearing improvement maintained for 2 years after the fenestration operation may be regarded as almost certainly permanent. Study of the hearing of patients successfully operated upon and followed for 5 years or longer shows how the improvement is generally maintained without significant variations year after year. In some cases the greatest hearing improvement occurs 6 months after operation, with subsequent hearing tests slightly lower, indicating partial narrowing of the fenestra. After the second year, however, osteogenesis has ceased and the hearing improvement is maintained at a stationary level.

The ultimate fate of the hearing improvements 10, 20, and 30 years after the fenestration operation must await the passage of time. (Surg., Gynec. & Obstet., April 15, '47 - G. E. Shambaugh)

* * * * * *

(Not Restricted)

The Effect of Early Postoperative Rising on the Recurrence Rate of Hernia: In June of 1942 a critical investigation of early postoperative rising was undertaken at the Peter Bent Brigham Hospital. This was to study what effect early ambulation has on postoperative complications, and whether it has any effect on the late operative results. The pertinent conclusions of that study were that the incidence of atelectasis was slightly lower in the early-rising group (4.6 per cent compared with 6.3 per cent), and that the incidence of deep-leg-vein thrombophlebitis, however, was slightly higher in the early-rising group (2.9 per cent compared with 1.8 per cent). With respect to the incidence of postoperative wound disruption, there was a slight reduction in the early-rising group (1.3 per cent against 2.7 per cent).

The present study was undertaken to determine the influence of early postoperative rising on the recurrence rate of hernia. The control group consisted of 202 herniorrhaphies on 177 patients. These patients got out of bed on the seventh to the fifteenth postoperative day. They were followed from 6 months to 7 years. The test group consisted of 174 herniorrhaphies on 159 patients. The majority of the test group rose on, or before, the first

postoperative day; 12 patients rose on the second day. They were all followed from 6 months to 4 years. Interrupted, fine silk technic was used in all cases of both groups.

The technic of getting the patient out of bed is essentially the same as Leithauser's. On the morning following operation, the patient is turned on the side operated upon. He flexes his hips and knees so that his lower legs are at the edge of the bed. The nurse locks her elbow in the patient's, and the patient pushes his feet off the side of the bed as the nurse assists him up sideways to a sitting position. As the patient sits on the side of the bed, slippers with heels, or shoes, are put on before he stands on the footstool. While standing, he is encouraged to breath deeply and to cough several times. The patient then walks around the bed and sits in his chair for about 20 minutes. As he returns to bed the walking and coughing are repeated. He is assisted out of bed in this manner twice daily until he can get up himself. In cases of herniorrhaphy the patient is usually able to get up himself on, or before, the third postoperative day. If the patient wishes to get out of bed on the day of the operation, he is allowed to do so, unless there is some specific contraindication. Many of the patients who had had herniorrhaphy performed under local nerve-block anesthesia got out of bed to eat lunch on the day of operation.

There was no selection among the patients who rose early following herniorrhaphy. The group included older patients, patients with poor abdominal wall structures, and patients in whom all types of operative repairs were carried out under all types of anesthesia.

As a group, the early risers were somewhat older because the younger patients were in the Army during the period when most of the early-rising patients were operated upon. In a review of the two groups, the more rapid postoperative recovery found to be present among the group of early-rising patients is again impressive.

In comparing the recurrence rates in the two groups, the results are classified with respect to the method of operative repair and the type of hernia.

In indirect inguinal hernia it was found that in the nonearly-rising group there were 5 recurrences in 131 operations and that in the early-rising group there were 5 recurrences in 114 operations. This is a recurrence rate of 3.8 per cent in the nonearly risers and 4.3 per cent in the early risers.

In direct inguinal hernia it was found that in the nonearly-rising group there were 6 recurrences in 49 repairs. In the early-rising group there

(Not Restricted)

were 4 recurrences among 36 repairs. This is a recurrence rate of 12.2 per cent in the nonearly risers and 11.1 per cent in the early risers.

There was no appreciable increase in recurrences in the small group of femoral, incisional, and umbilical herniae as a result of early rising.

In inguinal hernia it was found that the recurrence rate in 180 inguinal herniorrhaphies treated by postoperative bed rest was 6.1 per cent, whereas, the recurrence rate in 150 inguinal herniorrhaphies treated by early rising was 6.0 per cent.

It is concluded from the results observed that early postoperative rising exerts no significant effect on the recurrence rate of hernia. (Surg., Gynec. and Obstet., April 15, '47 - J. B. Blodgett and E. J. Beattie)

* * * * * *

(Not Restricted)

Early Reactions to the Administration of Penicillin in Cardiovascular Syphilis: A preliminary estimation of the incidence and severity of untoward reactions occurring during the administration of penicillin to patients with cardiovascular syphilis is presented.

Twenty patients with syphilitic aortic insufficiency and seven with aortic aneurysm were treated by the intramuscular route with total dosages of sodium penicillin in aqueous solution ranging from 2.0 to 15.0 million Oxford units. The results are presented in the following table.

Type of Cardiovascular Syphilis	Initial Penicillin Dosage (Oxford units)	Number Patients Treated	Early Febrile Reactions (No. of Patients)	Cardiac Symptoms During Therapy (No. of Patients)	Treatment Interrupted
Aortic Insufficiency	500-3000	6	0	1	0
	25,000-100,000	14	3	1	0
Aortic Aneurysm	500-2000	3	1	0	0
	50,000	4	0	0	0
Total		27	4	2	0

(Not Restricted)

Four patients had fever of from 100 to 100.8° F. within the first 16 hours of treatment; two patients with angina pectoris at rest of long standing had attacks of usual severity and frequency during and subsequent to penicillin administration. In no instance was the treatment schedule interrupted. No significant differences in severity or incidence of febrile reactions or cardiovascular symptoms occurred in patients receiving small doses of from 500 to 3,000 Oxford units as compared with those given large initial doses of from 25,000 to 100,000 Oxford units of the antibiotic agent.

Throughout the country penicillin is frequently administered to patients with cardiovascular syphilis. The absence of reported severe reactions proved to be due to penicillin tends to confirm the impression that the dangers of severe untoward reactions have been unduly emphasized and that the usual therapeutic dosages may be employed safely. (From material presented at the symposium, Recent Advances in the Investigation of Venereal Diseases, recently held in Washington, D. C., under the auspices of the Syphilis Study Section of the National Institute of Health - H. A. Tucker and T. W. Farmer, Johns Hopkins Univ. School of Med. and USPHS Venereal Dis. Res. and PG Training Center)

* * * * * *

(Not Restricted)

Results of Treatment of Neurosyphilis with Penicillin Alone and with a Combination of Penicillin and Malaria: The authors reviewed the cases of 118 patients treated for some form of neurosyphilis. All but six patients were of the white race. Seventy-five received only penicillin and 43 received combined malaria and penicillin therapy. All patients were followed for a minimum of one year. Commercial penicillin of mixed fractions was employed throughout. Almost all patients received 100 doses of penicillin of 40,000 units each in aqueous solution intramuscularly every three hours. Four patients with asymptomatic neurosyphilis, one with meningovascular neurosyphilis, and one with tabes dorsalis received 60 doses (2.4 million units total). Since these patients all showed improvement, the study makes no attempt to consider them separately. With the combined therapy each patient underwent at least 50 hours of fever with temperatures of 103° F. or above. The number of febrile paroxysms varied from eight to twelve. At the onset of the first malarial chill, penicillin therapy was instituted and continued as outlined without regard for the regularity of the febrile responses. The penicillin did not adversely affect the course of the malaria.

In general the response both in the clinical and spinal fluid changes in those patients given the combined therapy was more satisfactory than in those given penicillin alone.

(Not Restricted)

Patients with paresis and taboparesis showed a tendency to improve more rapidly with the combined treatment, whereas patients with tabes dorsalis responded equally well to penicillin, or malaria and penicillin, when observed for one year after treatment.

Nine patients who exhibited primary optic nerve atrophy due to syphilis were treated. Arrest of the degenerative process seemed apparent one year after treatment in the case of four patients who had received penicillin alone and in four who had received penicillin plus malaria. In one patient receiving the latter treatment, progression of the atrophy was evident. (From material presented at the symposium, Recent Advances in the Investigation of Venereal Diseases, recently held in Washington, D. C., under the auspices of the Syphilis Study Section of the National Institute of Health - A. C. Curtis et al.)

* * * * * * *

(Not Restricted)

Electrocardiographic Changes in Early Syphilis: There is considerable difference of opinion on whether or not the heart is affected during primary and secondary syphilis. As a result of numerous investigations during the past twenty years, however, the concensus has been that cardiac changes do not exist in early syphilis. Warthin found spirochetes in the myocardium of patients with secondary syphilis, and these findings have caused considerable discussion and some doubt concerning the significance of these findings.

This study included 30 patients with darkfield positive primary and secondary syphilis and no history of heart disease, hypertension, or diabetes. Seven patients, however, had histories of previous antisyphilitic therapy. Since reinfection could not be proved in these patients, they were classified as having recurrent lesions. All patients were hospitalized. Electrocardiographic tracings were taken prior to treatment and as near to every three days thereafter as administratively possible. The patients received only penicillin, and no other drugs were given during treatment.

The electrocardiographic abnormalities consisted of T wave and RS-T segment changes in the limb and/or chest leads; in no instance was there any evidence of interference in conduction.

(Not Restricted)

In addition to inverted and diphasic T waves in leads 1 and/or 2, T waves in these leads were considered abnormal when upright, but less than 1 mm. in amplitude; in the chest leads, upright T waves less than 2 mm. in amplitude were considered abnormal. The RS-T segment was considered abnormal in the limb leads when displaced upward or downward more than 2 mm.; such changes were common in the chest leads, but as an isolated finding were not considered abnormal inasmuch as such changes, especially elevation of the RS-T segment, are frequently observed in supposedly normal individuals. A Q wave in lead 3 as an isolated finding was not considered abnormal.

Fifteen (50 per cent) of the 30 patients showed abnormalities either before or during treatment and of these, eleven showed definite changes before penicillin treatment was instituted. The electrocardiograms of eight of these patients were observed to return to normal in a period of from three days to four months. The electrocardiographic changes in four patients were fleeting in nature. (Variation in the T wave abnormalities in the same leads during repeated examinations as well as lead variations were noted.)

Three persons (43 per cent) in the seven with a history of previous treatment showed changes. Twelve patients (52 per cent) of the 23 who had had no previous treatment showed electrocardiographic abnormalities.

Analyses were made to determine the relationship of these electrocardiographic abnormalities to the febrile Herxheimer reaction as well as to the patients' weight, age, sex, and color, and no significant correlation was found.

The analysis by age of infection showed the following:

Stage	Cases	EKG Changes
Seronegative Primary	2	2
Seropositive Primary	2	1
Secondary	15	6
Recurrent Lesions (relapsing and probable reinfections)	11	6
Total	30	15

Because of the evidence for the existence of a neurotropic spirochete, the authors considered the possibility that one strain of spirochete might cause these changes. In four pairs of patients almost certainly infected by the same strain of organism, the results were as follows:

Husband and wife	-	neither showed changes
Sisters infected by same man	-	one showed changes, the other was normal
Husband and wife	-	one showed marked changes, but the other was normal
Husband and wife	-	one showed questionable changes and the other was normal

It is interesting to note the differences in the electrocardiographic changes in these patients although they were treated in different stages and it is entirely possible that changes could have been present and that the tracing was not taken at the proper time.

Twenty-eight of these 30 patients had cerebrospinal fluid examinations which were done during the first six days of treatment, and none before penicillin was started. Two of the 28 patients showed positive spinal fluids, patient 14 a Type II fluid and patient 30 a Type III. Electrocardiograms in both of these patients showed definite changes. Patient 29, who had a probable syphilitic nephrosis, showed low amplitude T waves in all leads. These changes, however, were not sufficiently abnormal to be included among the 15 patients showing changes. Patient 12 had x-ray and physical evidence of a periostitis and an initial blood test of 512 Kline units but showed no electrocardiographic changes. No case of ocular or liver involvement was noted in this series.

Eight patients showing no history or physical or serological evidence of syphilis were treated with the same amounts of penicillin as the 30 syphilitic patients. These control patients had minor dermatological diseases such as pyodermas, etc., with no evidence of systemic disease. None of these eight showed any electrocardiographic changes during or after the administration of 4.8 million units of penicillin. This control series is admittedly small, but in view of the fact that the majority of the electrocardiographic changes in the syphilitic patients was seen prior to the administration of penicillin, it is believed to be significant.

Factors other than actual heart disease such as change in position, hyperventilation, etc., may produce T wave changes in the electrocardiogram, but it is believed that these factors were not operative in this series of cases.

In the absence of autopsy material, and because of the difference of opinion among pathologists as well as clinicians, the possible causes of these electrocardiographic abnormalities are still a matter of speculation.

(Not Restricted)

In the authors' opinion, the possibility that the electrocardiographic abnormalities are due to changes within the heart muscle seems most tenable. (From material presented at the symposium, Recent Advances in the Investigation of Venereal Diseases, recently held in Washington, D. C., under the auspices of the Syphilis Study Section of the National Institute of Health, USPHS - H. P. Steiger and J. Edeiken)

* * * * * *

(Not Restricted)

Bearing of General Nutritional State on Atherosclerosis: Much attention has been directed toward the role that specific nutritional factors such as the cholesterol content of the diet and the blood may play in the development of atherosclerosis in man. There are a number of observations that indicate that the general nutritional state of a person may have an important relationship in the formation of the atherosclerotic lesions. These observations may be divided into two categories, (1) those suggesting that obesity favors rapid and extensive development of atheromatous plaques, and (2) those indicating that prolonged undernutrition may retard the formation of such lesions.

Chief among the first group are the extensive statistics of insurance companies, in which it is shown that important clinical consequences of atherosclerosis (e.g., occlusion of the coronary artery and cerebral hemorrhage) occur more commonly in obese persons than in persons of average nutrition or in the undernourished. The most plausible explanation of this finding is that the atherosclerotic process is more advanced in the obese group. The alternative explanation is that the lesions themselves may not be more severe in obese than in other persons but that the extra mechanical burden imposed on the cardiovascular system by excessive deposits of fat in the tissues may lead to greater impairment of function.

Diabetes mellitus and arterial hypertension are two conditions that are widely held to predispose to the development of atherosclerosis. There is considerable evidence that both occur more commonly in persons who are overweight than in those who are underweight. In Cushing's syndrome, in which obesity is coexistent with both diabetes and arterial hypertension, a tendency for severe atherosclerosis to develop has been noted. The part that obesity itself may play in producing the arterial lesions in these disorders has not been clearly elucidated.

The study reported in this paper is based on findings in 1,250 necropsies performed at Bellevue Hospital, New York. Of these, 1,000 represent consecutive, unselected necropsies of persons who were 35 years of age or older. Since they included an inadequate number of necropsies of

obese persons, the series was enlarged by including the next consecutive 250 necropsies of persons 35 years of age or older who were obese. According to the state of nutrition as evaluated at autopsy the entire series is divided into three groups: one including 395 obese persons, one including 372 persons of average nutrition, and the third including 483 poorly nourished persons.

In a comparison of the incidence of various degrees of general atherosclerosis and of atherosclerosis of the coronary arteries, it was found that advanced atherosclerosis was about twice as common in the obese as in the poorly nourished. Those of average nutrition showed less severe atherosclerosis than the obese but more than the poorly nourished.

Almost twice as many of the poorly nourished than of the obese had little or no atherosclerosis at necropsy. The incidence of little or no atherosclerosis in those with average nutrition was intermediate between that of the poorly nourished and that of the obese.

The relationship demonstrated between the state of nutrition at necropsy and the degree of atherosclerosis is independent of age, sex, hypertension, heart weight, and diabetes. When the three groups studied are divided into subgroups according to age by decades, sex, absence or presence of terminal arterial hypertension, absence or presence of cardiac hypertrophy, the differences in the incidence of atherosclerosis between the three major groups remain essentially unchanged.

There is some indication that in nonhypertensive persons under 65 years of age the incidence of mild, moderate, and advanced atherosclerosis in the average and poorly nourished persons is about the same.

It is an arresting fact that overweight is common in all the important conditions that are believed to be associated with the atherosclerotic process. The data furnished in this report indicate that overnutrition is in itself related to the development of atherosclerosis. There is also good evidence that poor nutrition may retard the formation of intimal lesions in old age and in the presence of hypertension. In nonhypertensive younger persons no difference in the severity of atherosclerosis was observed in those of average and those of poor nutrition. This observation must be considered from the point of view that in both the latter groups the incidence of atherosclerosis has been artificially raised by the inclusion of formerly obese persons who became poorly nourished shortly before death.

From the evidence cited in this report it would appear that obesity is less important than either high blood pressure or advanced age in promoting

(Not Restricted)

the development of atherosclerosis. However, it must be recalled that this study is based on the state of nutrition as observed at necropsy. If the analysis had been based on the probable state of nutrition prior to the onset of the final illness, it is likely that the relationship between atherosclerosis and nutrition would be even more striking.

It is obvious, nevertheless, that, like all the other factors known to be concerned in atherosclerosis, obesity is not essential for the development of the lesion. Almost 40 per cent of poorly nourished persons over the age of 75, from 30 to 40 per cent of all hypertensive persons with poor nutrition, and even about 15 per cent of all poorly nourished nonhypertensive adults over the age of 35 have severe atherosclerosis at autopsy. It is not likely that the majority of these adults were ever obese. Even when old age, hypertension, and obesity are coexistent, almost 10 per cent may escape with little or no atherosclerosis.

It is also quite evident that obesity alone cannot be considered responsible for the development of atherosclerosis. This lesion is uncommon, for example, in obese persons under the age of 35. Even in older age groups, obese women appear to be less apt to have atherosclerosis than obese men. Finally, about one fourth of all obese persons over the age of 35 years show little or no atherosclerosis. Other conditions (e.g., predisposing changes in the arterial wall) must be fulfilled before overnutrition becomes a factor in the development of atherosclerosis, or one must suppose that there are different causes of obesity, only some of which are concerned in the atherosclerotic process. As a matter of fact, the data presented in this report merely confirm the existence of a relationship between nutrition and atherosclerosis; they do not afford any insight into the nature of this relationship.

A certain amount of speculation over this relationship is perhaps justified. Newburgh has shown that in obesity a disproportion between caloric intake and expenditure must inevitably be involved. In some instances of obesity the inadequate production of heat and energy due to sedentary habits or to intrinsic endocrine disturbances with lowered metabolic rate (e.g., hypothyroidism) may be chiefly concerned. In others excessive consumption of food is the predominant factor. It is likely that both excessive caloric intake and inadequate caloric expenditure are involved in many cases of obesity. Newburgh finds that a relatively large consumption of food is required to maintain obesity. It is not inconceivable that the relationship between nutrition and atherosclerosis depends more on the excessive intake of food than on the amount of adipose tissue deposited throughout the body.

No matter what the cause of obesity may be in any individual case, it is logical that obesity involves the transportation of a large amount of fat from

(Not Restricted)

the alimentary canal to the tissues by way of the circulatory system. The development of atherosclerosis may conceivably result from a disturbance in this transportation. This concept is further supported by the discovery of Hirsh and Weinhouse that the lipids initially deposited in the arterial wall have the same composition as plasma lipid. In a certain sense atheromatous lesions when they occur in conjunction with obesity may be considered as modified deposits of fat in unusual locations.

It must be admitted that numerous investigations have failed to reveal a constant increase of lipid content of the plasma in persons who have atherosclerosis. In most of these investigations the fact that the unrestricted ingestion of food may be followed by temporary periods of hyperlipemia is ignored. Hetenyi, it is true, noted less hyperlipemia in obese subjects following a high fat test meal than in undernourished ones, but others have found significant alimentary hyperlipemia in obese subjects. It is reasonable to infer that when the consumption of food is excessive the alimentary hyperlipemia will be more sustained and greater in degree than when the consumption of food is limited. Even if alimentary hyperlipemia is not associated with hypercholesteremia in obese subjects, one may suppose that the intimal surfaces of the arteries of obese persons are exposed to lipid-rich plasma for longer periods than are those of persons with average or poor nutrition. It is likely that the explanation of the association between obesity and atherosclerosis resides in this inference. (Arch. Int. Med., Feb. '47 - S. L. Wilens)

* * * * * *

(Not Restricted)

Studies of Fungus Antigens: The specificity of the histoplasmin reaction in man has become of great importance since the demonstration by Palmer and Christie and Peterson of a high degree of correlation between pulmonary calcification and sensitivity to histoplasmin in individuals who do not react to tuberculin. Emmons, Olson, and Eldridge have reported cross reactions between histoplasmin, blastomycin, coccidioidin, and haplosporangin in animals experimentally infected with the fungi from which these antigens were produced; nearly complete cross reactions occur between histoplasmin and blastomycin.

This paper is one of a series reporting the results of the extensive studies of histoplasmin sensitivity being conducted in Kansas City, Mo., where early in 1945 special facilities were established for research on histoplasmin sensitivity in both human beings and animals.

Three lots of histoplasmin, five of blastomycin, and antigens prepared from heat-killed yeast-phase cultures of Histoplasma capsulatum and Blastomyces

(Not Restricted)

dermatitidis have been tested on guinea pigs experimentally infected with H. capsulatum and B. dermatitidis.

The following observations were made:

(1) The number of experimentally infected guinea pigs which reacted to histoplasmin, blastomycin, or the heat-killed yeast-phase culture antigens depends upon the particular lot of antigen employed and upon the dilution of this particular lot.

(2) Although antigens prepared from cultures of H. capsulatum or B. dermatitidis will give reactions in guinea pigs infected with either fungus, the percentage and size of these cross reactions are dependent upon the dosage of the particular antigen employed.

(3) If the critical titers of these antigens are determined, and used accordingly, to study cross reactions, the degree of cross reaction between these antigens is small. The antigens are therefore relatively specific for guinea pigs experimentally infected with the homologous fungi.

(4) The level or degree of sensitivity of the animals employed to determine the titer of an antigen must be considered. That is, if the sensitivity level is low, a high concentration of the antigen will have to be used to elicit a reaction, and, therefore, a false impression of the critical titer of the antigen will be obtained. Such high concentrations of antigen will produce a high percentage of cross reactions. (Pub. Health Reps., May 2, '47 - A. Howell, Jr.)

* * * * * *

(Not Restricted)

Control of Houseflies by DDT Sprays: Investigations were carried out at milk and food establishments to determine the effective duration of DDT as a residual spray deposit on surfaces, the amount of treatment necessary to obtain practical control, and the most effective method of application.

From the results obtained it was shown that DDT is very effective in the control of houseflies in dairies and restaurants not only when employed as a spray for its residual effect but also when used to impregnate strings which were hung in small food shops and when used in a dilute cover spray to kill emerging adult flies at an alley garbage station and an industrial plant.

In dairies, an emulsion of 2 and 1/2 per cent of DDT in xylene and Triton was used at the rate of 200 mg. of DDT per square foot. Under poor sanitary

(Not Restricted)

conditions, treatment of the milking barn alone or of the outbuildings alone gave from 50 to 70 per cent control, which was not sufficient to reduce the number of flies to a satisfactory level. A complete treatment of both barn and outbuildings usually gave satisfactory control for 3 months or more. A DDT emulsion and a water-wettable DDT-powder suspension gave comparable results when used under similar conditions and concentrations.

In restaurants, an emulsion containing 7 and 1/2 per cent of DDT was applied to the ceiling and walls of dining rooms and kitchens at the rate of 200 mg. of DDT per square foot. On high-gloss finishes, particular caution was exercised to obtain uniformity of spray pattern and to prevent coalescing of the droplets. Excellent control was obtained for three or more months in the restaurants treated.

In small food and ice-cream shops from 40 to 60 feet of DDT-impregnated cord, which was hung along the chains suspending display shelves, from ceilings at locations where the cord would be accessible to the flies, and as replacements for electric-light pull cords, gave good control when flies were not present in excessive numbers. In shops with a great influx of flies, the treated strings alone did not bring the flies under satisfactory control.

Preliminary tests with DDT as a cover spray for the control of adult flies emerging from garbage can grain wastes gave effective control. A treatment of an alley near a restaurant garbage station with an emulsion of 2 and 1/2 per cent of DDT at the rate of 200 mg. of DDT per square foot gave effective control for 3 weeks. A treatment of grain wastes with an emulsion of 1/2 per cent of DDT at the rate of 300 mg. per square foot gave effective control for 5-week intervals. When a DDT emulsion of 2 and 1/2 per cent was applied as a residual treatment to surfaces at the rate of 200 mg. of DDT per square foot to supplement the cover spray, a more rapid decrease in the number of flies and a longer period of effectiveness were obtained. (Pub. Health Reps., April 25, '47 - W. C. Baker et al.)

* * * * * *

(Not Restricted)

Plans of the USPHS re BCG Vaccination: As a result of deliberations at a meeting of outstanding leaders in tuberculosis in the United States, China, and Denmark, the conclusions and recommendations listed below were formulated; they have since been approved by the Surgeon General, USPHS, and will be used as a guide in the expansion of the research program of the Tuberculosis Control Division, USPHS:

BCG vaccine should not be made commercially available at present.

(Not Restricted)

From studies presented, it appears that BCG vaccination confers increased resistance to tuberculosis for the limited period of time covered in those studies.

Medical literature fails to reveal any proved cases of progressive disease as a result of BCG vaccination.

BCG vaccination can be done without causing severe local reactions.

The intracutaneous method of vaccination is recommended for use at present.

In the studies presented, BCG vaccination converted a large percentage of nonreactors (to the tuberculin test) into reactors.

Need for revaccination and time interval between vaccination require further study.

It was recommended that a single laboratory be established by the Tuberculosis Control Division to produce BCG vaccine for the whole country for use in research programs.

Extensive investigations should be carried on cooperatively with recognized research groups throughout the country during the coming years, especially in population groups highly exposed to tuberculous infection.

It was recommended that the Tuberculosis Control Division set up a controlled study in a community containing 100,000 or more people, to determine immediate and long-range results.

Further research is strongly recommended to determine the efficiency of the vaccination and also to attempt to develop a vaccine composed of dead bacilli. It was recommended that methods be developed to standardize technics of preparation of a potent and stable vaccine for use in the United States and if possible throughout the world. (Am. Rev. Tuberc., March '47 - H. E. Hilleboe, Medical Director, Chief, Tuberculosis Control Div., USPHS)

* * * * * *

(Not Restricted)

Abstracts of Reports on Research Projects:

X-337
(Sub. No. 62)
Rep. No. 1
Jan. '47

Symptoms of Oxygen Poisoning and Limits of Tolerance at Rest and at Work.

The object of this study was to determine the effect of breathing 99.6 per cent oxygen under increased pressure while at rest and at work, and the maximal depth for the safe use of the self-contained oxygen apparatus. Oxygen is the most economical gas to use in under-water breathing equipment. However, it is toxic at high pressures, acting chiefly on the central nervous system. Before symptoms occur; however, there is a latent period of well being that renders the use of oxygen practical.

Tests were carried out from which it was concluded that: (a) in the dry chamber oxygen can be breathed safely by a person at rest for periods of at least 2 hours at a simulated depth of 60 feet; (b) in the wet chamber at 60 feet oxygen inhalation for a period of 10 minutes at rest is consistent with safety; (c) in the wet chamber at a depth of 60 feet some persons at rest are susceptible, but others are consistently resistant to the toxic action of oxygen; and (d) for underwater work the safe depth for the inhalation of pure oxygen is limited to 30 feet. (Experimental Diving Unit, Naval Gun Factory, Washington, D.C. - O.D. Yarbrough et al.)

NOTE: Those interested in seeing copies of the complete reports should address their request to the research activity from which the report originates.

Opinions or conclusions contained in these reports are those of the authors. They are not to be construed as necessarily reflecting the views or the endorsement of the Navy Department. Reference may be made to those reports marked "Not Restricted" in the same way as to published articles noting authors, title, source, date, project number, and report number. No part of the content of RESTRICTED reports may be published, reproduced, or referred to in articles for publication without permission obtained through the Bureau of Medicine and Surgery.

* * * * * *

(Not Restricted)

Proposed Legislation to Increase the Pay of Medical Officers: See page 28 (Circular Letter 47-57) for information concerning the proposed "Medical Officer Procurement Act of 1947."

* * * * * *

(Not Restricted)

Application Form for Postgraduate Training for Medical Officers: The outline of the application form which was promulgated in the Bumed News Letter dated 24 May 1946 is hereby revised as follows:

The letter making application for further training should be addressed to the Chief of the Bureau of Medicine and Surgery. The subject should coincide with the name of the specialty board, and if training is requested in a subspecialty of one of the American Boards, the name of the subspecialty should appear in parenthesis, for example, "Request for Training in Internal Medicine (Cardiology)." The applicant should be specific and definite in his request and not leave the decision of his future specialty up to the bureau. In this connection, requests for training in "Medicine and Surgery" are inappropriate, as are requests for training in "Obstetrics and Pathology."

Paragraph (1) should state the subject of the training and location if applicable. If there is more than one institution, either naval or civilian, providing the requested training, it is better to give two or more choices if possible in order to allow the bureau some latitude in placing medical officers.

Paragraph (2) should include a statement regarding previous training in the requested specialty and allied subjects. It is recommended that medical officers elaborate in this paragraph if it is pertinent to the request.

Paragraph (3) should state the desire or aims of the officer and explain why this request is made. It is not sufficient for a medical officer to state that he desires further training which will qualify him as being eligible for examination by a specialty board. Professional interest and motivation should be explained to the board and are more apropos. A previous statement dated 1 May 1946, made in the Outline of the Graduate Training Program in the Navy Medical Corps is repeated:

> Certification of a medical officer is the responsibility of a specialty board and is a by-product of the training program. A hospital or an institution is not approved, but rather specialty training within that hospital is approved.

(Not Restricted)

Paragraph (4), if necessary, may include any other facts which might be of interest to the Advisory Board in making selections for further training. An officer should supply such information as he deems appropriate or that may have a direct or indirect bearing on his training problem.

The last paragraph should include a statement, if applicable, regarding an agreement to remain in the Navy for the necessary time after completion of the desired training. Recipients of residency training in naval hospitals are expected not to resign during the residency and to remain in the Navy for a period of one year following completion of the course. This requirement in residency training is a change in BuMed policy since the inauguration of the training program. Medical officers receiving courses of 6 months or longer in a civilian institution are likewise expected not to resign during the course and to remain in the Navy for 3 years after completion of such courses.

Medical officers should include two recent photographs, of approximately 2" x 2" in size, with the application for further training. It is necessary to have these photographs on file in the Professional Division, since most civilian institutions require at least one photograph of the candidate. Occasionally it is necessary to send photographs to more than one institution at the same time. If a medical officer has recently submitted two photographs, it is not necessary to repeat the photographs with each new additional request.

Commanding officers are asked to include in a forwarding endorsement such information as will be of help to the Advisory Board in making recommendations to the Surgeon General. Such endorsements should give an honest and frank opinion of the applicant's professional qualifications and future potentialities in the specialty requested.

(Professional Div., BuMed)

* * * * * *

(Not Restricted)

Postgraduate Instruction for Dental Officers: Dental officers who have completed, or who will complete by October 1947, at least one tour of duty at sea or extra-continental station are eligible to submit applications for assignment to the General Postgraduate Course of Instruction scheduled to commence on or about 13 October 1947 at the U.S. Naval Dental School, National Naval Medical Center, Bethesda, Maryland.

This course of instruction is of six months' duration and is designed to acquaint experienced dental officers with recent advances, including newly developed specialized procedures. The course includes instruction in the subjects of oral diagnosis and roentgenology, operative dentistry, periodontia, oral bacteriology, endodontia, biochemistry, crown and bridge prosthesis, partial and full denture prosthesis, exodontia, dental property and accounting, and administration.

All dental officers desiring assignment to this course should submit applications in accordance with paragraph 1361, Manual of the Medical Department, 1945. The size of this class will be limited to ten dental officers. (Dental Div., BuMed)

* * * * * *

(Not Restricted)

Graduate Training in Neurology, Psychiatry, and Electro-encephalography: The Bureau of Medicine and Surgery has available several openings for residencies in psychiatry, residencies in neurology, and a six months' course in electro-encephalography. The residencies are approved by the American Board of Psychiatry. Requests from medical officers of the regular Navy are desired. Reserve medical officers are eligible for consideration providing their applications are accompanied by a request for transfer to the regular Navy. A one-year Service agreement is necessary for the residencies. No Service agreement is necessary for the course in electro-encephalography.

In the selection of a specialty for further training, consideration should be given to the specialty fields that are not overcrowded.

Requests may be submitted by dispatch. (Professional Div., BuMed)

* * * * * *

(Not Restricted)

Training in Broncho-Esophagology: The Bureau of Medicine and Surgery announces that the next course in broncho-esophagology, available for two

(Not Restricted)

medical officers, will start 15 September 1947 at the University of Illinois, College of Medicine, Chicago, Illinois.

Applications are desired and should reach BuMed prior to 15 July 1947. Reserve officers who desire to transfer to the regular Navy will be given preference. No Service agreement is required. It is planned that T.A.D. orders will be issued, but should this not be possible, authorization orders will be provided. The Bureau considers that no reliefs for the medical officers ordered to this course will be necessary. (Professional Div., BuMed)

* * * * * *

(Not Restricted)

Graduate Training for Medical Officers in Civilian Institutions: The Bumed News Letter of 31 January 1947 lists the courses in civilian institutions offered by the Navy to its medical officers. Several places in courses beginning 1 July 1947 as listed below have not yet been assigned and are still available.

No. of Places	Institution	Specialty	Type of Training	Duration	Starts
		ANESTHESIA			
3	Mayo Clinic		Course	6 months	Every Quarter
		ORTHOPEDICS			
1	Washington Univ. of St. Louis (second-year level)		Fellowship	12 months	7-1-47
		PHYSICAL MEDICINE			
2	Mayo Clinic		Fellowship	12 months	Every Quarter

Applications may be made by dispatch. (Professional Div., BuMed)

* * * * * *

(Not Restricted)

Training in Surgical Specialties: Several residencies in the various surgical specialties listed below are available in naval hospitals. Reserve

(Not Restricted)

medical officers are eligible for consideration providing their request for training is accompanied by a request for transfer to the regular Navy and includes a signed one-year agreement.

Anesthesiology	Proctology
Neurosurgery	Thoracic Surgery
Orthopedic Surgery	Urology
Otolaryngology	

(Professional Div., BuMed)

* * * * * *

(Not Restricted)

New Cross-Index System for Case Records in Naval Hospitals: Circular Letter 47-62 on page 33 directs the initial steps leading to the setting up in naval hospitals of an improved and standardized case-record cross-index system.

The primary object of the new cross-index system is to facilitate the study of case records by making them easily accessible. To that end the records are indexed according to diagnosis, surgical operations, specific therapeutic measures, and other special study items. The special study file also permits individual doctors to have indexed under their names the cases being assembled for presentation to a board or college.

The system is adaptable to both large and small hospitals, and to the particular interests of the staffs of individual hospitals. The basic uniformity of the system, however, will permit more readily the compilation of series of cases treated in several hospitals, and thus will allow the study of larger numbers of cases than are available in a single hospital.

The mass of clinical data constantly being accumulated in naval hospitals offers a fertile field for case record study. By standardizing the indexing system these records can be made generally accessible. (Medical Statistics Div., BuMed)

* * * * * *

ALNAV 115 2 May 1947 (Not Restricted)

Subj: Immunization Against Diphtheria

All naval, Marine Corps, civilian personnel, and dependents between six months and 35 years of age transferred to or contemplating travel through Europe and/or the Mediterranean region under cognizance of the Navy Department shall be immunized against diphtheria or shown to be Schick negative prior to departure.

Immunization of children under ten years of age will be by accepted standard dosages of either alum precipitated or fluid toxoid alone or if preferred, in combination with such agents as tetanus toxoid or pertussis vaccine.

Immunization of persons ten to 35 years of age:

(a) All shall be Schick tested. (b) Schick negative and pseudo reactors shall be considered immune, will be given certification to that effect and allowed to proceed. (c) Schick positive reactors shall be immunized with plain fluid toxoid as scheduled below. (d) Immunization of persons showing a combined reaction to the Schick test must be approached with great caution.

Schedule of immunization:

(a) Begin with test dose of 0.1 c.c. toxoid subcutaneously. After 48 hours if reaction has been minimal, proceed with (b) 0.5 c.c. toxoid subcutaneously. (c) 1.0 c.c. toxoid subcutaneously three to four weeks later. (d) Final immunizing dose 1.0 c.c. toxoid subcutaneously three to four weeks later.

Occurrence after any dose in the series of local edema or induration more than 6 cm. in diameter, or a marked constitutional reaction with fever over 101° F. is a contraindication to further doses and a statement to this effect shall be entered in the health record and on the immunization certificate.

Careful recording of results of Schick test and of reaction to immunization shall be entered in the health record and on the immunization certificate.

--SecNav. James Forrestal

* * * * * *

Circular Letter 47-56 2 May 1947 (Not Restricted)

To: All Ships and Stations

Subj: Kahn Antigen - Requisitions for quantities in excess of requirements.

1. It has recently come to the attention of the Bureau that many shore activities, and a considerable number of naval vessels, have been submitting requisitions for Kahn antigen in amounts which are obviously far in excess of their actual requirements. As for example: One hospital and one shore station, during the last quarter, each requisitioned sufficient material for 150,000 tests. In the previous year some requisitions called for amounts sufficient for 400,000 tests.

2. Past experience indicates that a hospital with a census of 1,000 with a normal rate of admissions and volume of out-patient work load would need to perform, on a very liberal estimate, about 10,000 presumptive and 4,000 standard Kahn tests during a six months' period. On this basis, 100 c.c. of presumptive antigen and 250 c.c. of standard antigen would be required.

3. All ships and stations using Kahn antigen are directed to effect the greatest economy in its use. In the future, such material should be requisitioned on a basis of 100 c.c. per 10,000 presumptive Kahns and 100 c.c. per 1,500 standard Kahns.

--BuMed. C. A. Swanson

* * * * * *

Circular Letter 47-57 5 May 1947 (Not Restricted)

To: MedOfsCom, NavHosps, Naval Medical Centers, and Naval Medical Supply Depots

Subj: Proposed legislation to provide additional inducements to physicians and surgeons to make a career of the United States Naval Service.

Encl: 1. (HW) H. R. 3254, 80th Congress, 1st Session, as introduced in the House of Representatives, 29 April 1947.

This letter from the Chief of BuMed together with the enclosure, a copy of which follows below, states that the proposed legislation was initiated by

(Not Restricted)

the Bureau to provide additional inducements to doctors of medicine to enter the Medical Corps of the Navy as a career.

This proposed legislation has the approval and support of the Navy Department and has been cleared by the United States Bureau of the Budget. However, the attitude of Congress toward the legislation has not yet been determined.

As shown by the context of the bill, the objectives of this proposed legislation are twofold. First, it is proposed to increase the attractiveness of the Medical Corps and to facilitate the procurement of medical officers for the postwar Naval Establishment by reimbursing them for the cost of their professional education and by compensating them for their loss of earning power during such period. Second, the bill is designed to raise the quality of medical care in the Navy by increasing the number of medical specialists, this increase to be accomplished by providing additional compensation for such personnel.

80TH CONGRESS
1ST SESSION

H. R. 3254

IN THE HOUSE OF REPRESENTATIVES

APRIL 29, 1947

Mr. ANDREWS of New York introduced the following bill; which was referred to the Committee on Armed Services

A BILL

To provide additional inducements to physicians and surgeons to make a career of the United States naval service, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Naval Medical Officer Procurement Act of 1947".

TITLE I

PAY OF PHYSICIANS AND SURGEONS

SEC. 101. The Pay Readjustment Act of 1942 (56 Stat. 359), as amended, is hereby further amended by inserting after section 1 thereof the following new section:

"SEC. 1A. (a) The term 'commissioned officers of the Navy Medical Corps', as used in this section, shall be interpreted to mean only (1) those commissioned officers of the Medical Corps of the Regular Navy who are on active duty on the effective date of this amendment; (2) those officers who are commissioned in the Medical Corps of the Regular Navy during the five-year period immediately following the effective date of this amendment; (3) those commissioned officers of the Medical Corps of the Naval Reserve who are on active duty on the effective date of this amendment; and (4) such officers, now or hereafter commissioned in the Medical Corps of the Naval Reserve, as may, during the five-year period immediately following the effective date of this amendment, volunteer for extended active duty of one year or longer.

"(b) In addition to any pay, allowances, or emoluments that they are otherwise entitled to receive, commis-

sioned officers of the Navy Medical Corps shall be paid the sum of $100 for each completed month of active service: *Provided,* That such sum shall not be included in computing the amount of increase in pay authorized by any other provision of law or in computing retired pay: *And provided further,* That the total amount which may be paid to any one officer under the authority contained in this section shall not exceed $36,000."

SEC. 102. This title shall become effective on the first day of the first calendar month following its enactment, and the payments herein provided shall not accrue for any period prior thereto.

TITLE II

PAY OF MEDICAL AND SURGICAL SPECIALISTS

SEC. 201. The Pay Readjustment Act of 1942 (56 Stat. 359), as amended, is hereby further amended by inserting after the new section provided by section 101 of this Act the following additional new section:

"SEC. 1B. (a) The Surgeon General of the Navy is hereby authorized to designate as specialists qualified commissioned Medical Corps officers of the Regular Navy and of the Naval Reserve who are certified as specialists by an American Specialty Board recognized by the said Surgeon General. Officers so designated under the provisions of this section shall retain such designation, with the additional pay incident thereto, until it is withdrawn by the Surgeon General of the Navy: *Provided,* That no such designation shall be withdrawn while the officer concerned is on active duty until it has been determined by a board of specialists, appointed by the Surgeon General of the Navy, that such officer is no longer qualified or required in a specialty. The Secretary of the Navy is hereby authorized to prescribe from time to time such regulations as may be necessary for the administration of this section.

"(b) Medical Corps officers of the Regular Navy and of the Naval Reserve designated as specialists pursuant to the provision of subsection (a) hereof shall receive an increase of 25 per centum of their base and longevity pay while on active duty: *Provided,* That such increase in pay shall not be included in computing the amount of increase in pay authorized by any other provision of law or in computing retired pay: *And provided further,* That if such officers are entitled by other provision of law to receive an increase in pay for participation in aerial flights, they shall elect to receive either the increase herein provided or the increase for participation in aerial flights, and in no event shall they receive both increases at the same time."

SEC. 202. This title shall become effective on the first day of the first calendar month following its enactment, and no back pay for any period prior thereto shall accrue by reason of its enactment.

TITLE III

ORIGINAL APPOINTMENTS OF MEDICAL AND SURGICAL SPECIALISTS

SEC. 301. The President, by and with the advice and consent of the Senate, is hereby authorized to make original appointments to permanent commissioned grades, with rank not above that of captain, in the Medical Corps of the Navy in such numbers as the needs of the service may require. Such appointments shall be made only from civilian medical and surgical specialists who have been certified as specialists by an American Specialty Board recognized by the Advisory Board for Medical Specialists and by the Surgeon General of the Navy, who are citizens of the United States, and who shall have such other qualifications as the Secretary of the Navy may prescribe. The physicians and surgeons so appointed shall be carried as additional numbers in rank, but shall not increase the authorized number of commissioned officers of the Medical Corps of the Regular Navy.

SEC. 302. The Secretary of the Navy is authorized to prescribe from time to time such regulations as may be necessary for the administration of this title.

Circular Letter 47-58 8 May 1947 (Not Restricted)

To: All Ships and Stations

Subj: Medical Department Documents, declassification of

Encl: 1. (HW) List of Documents Declassified

1. Enclosure 1 is a list of letters, reports, publications, and other documents having a general circulation throughout the Naval Medical Department which have been declassified.

--BuMed. C. A. Swanson

ENCLOSURE 1

DECLASSIFIED MEDICAL DEPARTMENT DOCUMENTS

NavMed Symbol	Title	Former Classification
104	Weekly Morbidity Report.	Restricted
113-1	Supplement to the Hospital Corps Quarterly, March 1944.	Restricted
141	Prevention of Malaria in Military and Naval Forces in the South Pacific. (Medical Officers)	Restricted
142	Military Malaria Control in the Field. (Officers)	Restricted
143	Malaria, Mosquitoes, and Men. (Enlisted Personnel)	Restricted
216	Index of references to Physical Examinations, Physical Requirements and Physical Standards for U.S. Navy, U.S. Naval Reserve, U.S. Marine Corps, and U.S. Marine Corps Reserve.	Restricted
220	Manual on Treatment of Casualties from Chemical Warfare Agents	Restricted
292	Manual on DDT insecticide.	Restricted

Enclosure (Cont.) (Not Restricted)

NavMed Symbol	Title	Former Classification
296	Naval Aviation Night Vision Manual.	Restricted
299	Typical Breeding and Resting Places of Anopheles Punctulatus Moluccensis in the South Pacific.	Restricted
342	Aviation Psychology Technical Memorandum.	Restricted
422	Monthly Personnel Census Report.	Confidential
642	Manual on Asiatic Schistosomiasis.	Restricted
826	Statistics of Navy Medicine: Vol. I, Nos. 1, 2, 3, and 4; and Vol. II, No. 1	Restricted
	All Annual and Quarterly Sanitary Reports for the years 1944 and 1945.	Secret and Confidential
	BuMed Circular Letter No. 46-145, BuMed 3161-ak, Serial 0432 (sc) of 1 Oct 1946.	Confidential
	List of Hospitals and Dispensaries under construction. Serial 474 of 25 July 1942.	Confidential
	Estimated Patient Load, 1945 (BuMed-Y-V4 of 2 Jan 1945).	Confidential

* * * * * *

Circular Letter 47-59 8 May 1947 (Not Restricted)

To: Comdts, All Naval Districts and River Commands

Subj: Venereal Disease Posters and Pamphlets, suggestions for

1. Venereal disease posters and pamphlets have been widely used and successfully utilized in the education of naval personnel in the prevention of the venereal diseases. The Bureau of Medicine and Surgery plans to revise the motif of these posters and pamphlets from a wartime to a peacetime trend. The revised posters and pamphlets will be issued as they become available.

(Not Restricted)

2. The Bureau is aware that many excellent venereal disease posters and pamphlets have been designed and produced in the various naval districts and that these posters contributed much toward the reduction of venereal disease. It is believed that many of these posters and pamphlets would serve as excellent educational media for all personnel. It is requested, therefore, that copies of all such posters that have been produced in naval districts which do not have a wartime motif be forwarded to BuMed for evaluation and possible reproduction for the Service.

3. It is requested that medical officers, venereal disease control officers, and others doing venereal disease control work submit to BuMed any recommendations, ideas, sketches, and cartoons which they consider worth while for use in forthcoming posters and pamphlets.

--BuMed. C. A. Swanson

* * * * * *

Circular Letter 47-60 12 May 1947 (Not Restricted)

To: Medical Department Activities (Continental)

Subj: Stock Levels of Medical Stores, Modification of Current Instructions for X-ray Film

Refs: (a) BuMed CirLtr 45-23 of 23 Jan 1945
(b) BuMed CirLtr 46-184 of 30 Dec 1946

This letter from the Chief of BuMed modifies the supply levels of x-ray film as authorized in paragraph (1) of reference (a). This action is made necessary by the continuing acute shortage of x-ray available from manufacturers and in the commercial market.

* * * * * *

Circular Letter 47-61 12 May 1947 (Not Restricted)

To: MedOfCom, All Naval Hospitals

Subj: Cross-Index System for Hospital Case Records

This letter from the Chief of BuMed states that the Bureau has completed a study designed to improve and standardize the method of cross indexing case

(Not Restricted)

records in naval hospitals and that an index system to fulfill the requirements of the Medical Department has been developed.

The primary purpose of the new cross-index system which it is expected will be put in use about 1 July 1947 is to provide ready access to case records in hospital files, in order to facilitate study of the clinical material contained in the records. The system provides for indexing diagnoses, surgical operations, and various other items of clinical interest, such as specific therapeutic measures. It provides for indexing case records of supernumeraries as well as those of active duty patients, and allows selection of cases by status, sex, age, etc. The system embodies certain features presently used in several naval hospitals, with additional features adopted from systems used in various large civilian clinics.

* * * * * *

Circular Letter 47-62 12 May 1947 (Not Restricted)

To: All Ships and Stations

Subj: Investigation and Control of Epidemics of Diarrheal Diseases

Refs: (a) BuMed CirLtr 44-129, P2/P3-1(064) of 5 Jul 1944 ND Bull 44-804
(b) MMD para. 35D1, Special Epidemiological Report

1. Ref. (a) is hereby cancelled and superseded.

2. Dysentery and other diarrheal diseases still constitute one of the main problems of preventive medicine in the Navy.

3. In order to conduct an intensive and coordinated study of the etiology, mode of transmission, and most effective means of control of these diseases as they affect the Navy, Research Project X-756 has been approved by the Bureau of Medicine and Surgery. This project has been assigned to the Bacteriology Facility of the Naval Medical Research Institute, Bethesda, Md., which has been augmented by the former Enteric Pathogen Laboratory of the Naval Medical School, National Naval Medical Center.

4. Immediate on the spot investigations of diarrheal outbreaks accompanied by laboratory studies identifying the etiological agent afford the most valuable opportunity for collecting the useful basic information on the cause and mode of propagation of these outbreaks. In order to correlate information gathered from a wide variety of sources, a fairly uniform method of investigation and type of report to a central coordinating agency is highly desirable. A proposed outline for uniform investigation and reporting of outbreaks of diarrheal

diseases is being forwarded to epidemiological units and other research units, and will be used by them for guidance in conducting investigations and submitting reports to the Medical Officer in Command, Naval Medical Research Institute, Bethesda, Md. A copy of this outline under the title "Outline for Investigation and Control of Shipboard Epidemics of Diarrheal Diseases" will be sent to other laboratory or investigative units upon request. Bumed News Letter, Volume 7, No. 12, dated 7 June 1946 contains most of the suggestions for sanitary investigation and control found in this outline. Ships or stations not using this outline are directed to prepare an extra copy of special epidemiological reports, (ref. (b)) whenever these refer to outbreaks of diarrheal disease, and to submit this extra copy to the Naval Medical Research Institute.

5. Representative samples of subcultures of all strains of enteric pathogens isolated in the course of studies of diarrheal outbreaks or carrier states from any source shall be forwarded to

Medical Officer in Command
Naval Medical Research Institute
Bethesda 14, Maryland

These shall include all members of the Salmonella, Shigella, Pseudomonas, Proteus, and Paracolon groups. "Representative samples" should be interpreted to mean that not necessarily all cultures recovered during an epidemic or outbreak need be forwarded, but that a sufficient number be submitted to establish the probable etiologic agent of the disease and its source; this will vary according to the number of personnel involved. It is of particular importance to include subcultures of the apparent causative organism recovered from the indicated immediate focus of dissemination, such as a food handler, articles of food or beverage, polluted sea water, etc. If the epidemic is extensive (involving fifty or more personnel), from twelve to twenty-four subcultures may be adequate; in the event of smaller outbreaks (and especially when dealing with sporadic cases) it may be desirable to submit all suspicious cultures. The cultures shall be forwarded on plain infusion or nutrient agar slants or agar stabs in 13 x 100 mm. tubes; the medium used should contain two per cent agar. In order to conform with Postal Regulations (title IV, par. 589, subpar. 3, 1940), the tubes shall be stoppered with cork or rubber stoppers, or sealed with wax, and shall be mailed in double containers, one of which is of wood or metal. The tubes shall be adequately marked for identification, and shall be completely and evenly surrounded by absorbent cotton or other suitable absorbent packing material. Clinical and epidemiological data shall be forwarded with or subsequent to submission of cultures in accordance with Part B of the outline mentioned in paragraph 4 above when the

(Not Restricted)

outline is used; otherwise all pertinent clinical and epidemiological data concerning the source of the cultures submitted shall be included with the specimens.

6. Upon completion of the identification and typing of the organism submitted, a report will be forwarded from the Bacteriology Facility, to the ship or station from which the culture originated.

--BuMed. C. A. Swanson

* * * * * *

OP24/glb
Serial 250P24 22 April 1947 (Not Restricted)

To: All Ships and Stations

Subj: U.S. Naval Dental Clinic, Pearl Harbor, T. H. - establishment of

1. The following activity is established, effective 1 May 1947:

U. S. Naval Dental Clinic
Pearl Harbor, T. H. 2748-792

Mail Address

Navy Number 128
Fleet Post Office
San Francisco, California

2. This activity, under an officer in charge, will be under the military command and coordination control of the Commander, U. S. Naval Base, Pearl Harbor, T. H., and under the management control of the Bureau of Medicine and Surgery.

3. Bureaus and offices concerned take necessary action.

--SecNav. James Forrestal

* * * * * *